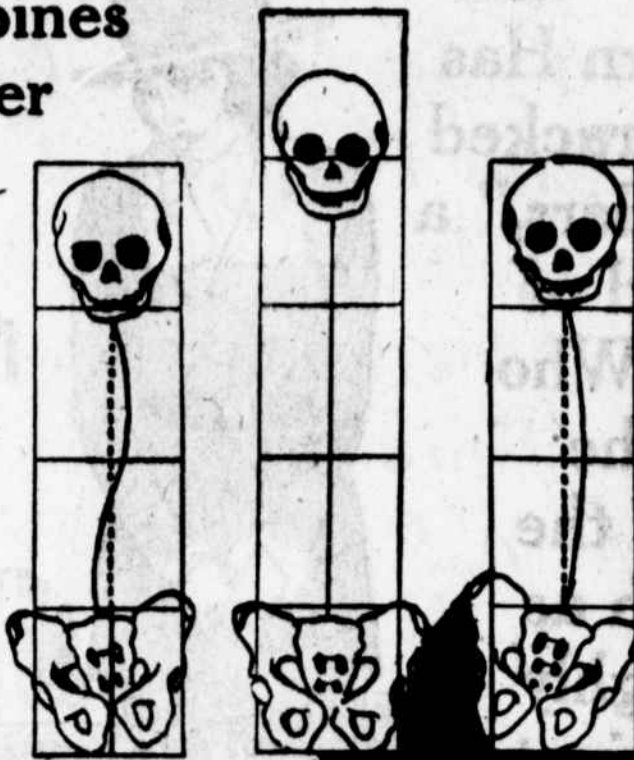


# Science Searching Our Women for a Perfect Backbone

**Brunettes Have Straighter Spines Than Blondes, Mothers Better Ones Than the Childless, Actresses Fall Below Working Women—Curious Discoveries in a Nation-Wide Hunt for a 100% Spinal Column**



The Perfect Spine and the Two Most Frequent Forms of Curvature Discovered in the Search. The Perfect Spine is in the Centre. Diagrams on Each Side Show Also How Spinal Curvature Tips the Pelvic Bones Out of Line.

Photograph of an Examination by One of the National Institute's Doctors of the Spines of Two Contestants for the Perfect Backbone Prize

THROUGHOUT the United States and Canada for the past few months little bands of experts have been going around dropping plumb-lines down the spines of women and children and carefully balancing spirit-levels on their shoulders and hips.

These operators are doctors trying to find a perfect backbone for the National League for the Prevention of Spinal Curvature, which has its headquarters up in Toronto, Canada. When they find one in an adult its owner will not be asked to part with it. She will receive \$1,000 if she is grown up, and it will be photographed and moulded in plaster, and copies of it will be sent all over the world. When they find it in a child, he or she will receive \$500 and the same thing will be done with it.

But the doctors, who are osteopaths, by the way, do not expect to find a 100 per cent perfect backbone in either woman or child. The prize will, therefore, almost certainly go to the one that most nearly approaches the perfect.

For it is the amazing fact that in all the world, so the scientists say, there is almost certainly no absolutely perfect spinal column.

Or, as Dr. F. P. Millard, president of the National League, puts it: "We feel sure that there is no such thing as a perfect back in existence. Almost every person can remember having at least one fall or twist or accident that at some time or other wrenched or twisted their spine so that they were laid up or uncomfortable for a day or more. These are all recorded in the spine."

And the result of that record is to put that particular backbone out of the 100 per cent perfect class.

But in the search for the perfect back some very interesting and unexpected things about our backbones have been discovered.

The quite astounding fact seems to be that brunettes have better backbones than blondes. That is, the brunette average up to date has been far ahead of the blonde average.

Women with children, it has been found, average better than childless women in straightness of spines.

Another curious discovery is that actresses average lower, and considerably lower, than women who do comparatively hard physical work.

Yet, while all this is true of the averages, it is reported that the most perfect spines so far discovered belong, one, to a blonde actress without children, and the other to a woman seventy-two years old, who has been a mother several times and was, in her youth, a pronounced brunette. And the actress is said to have a shade the better of the two.

The average woman, it appears also, has a better spine than the average man. Two points of excellence in a spine she has—a good curve of the lower or lumbar region

and mobility. It is amusing, in view of the facts, to note the exaggerated drawings of the female form made by enemies of the corset. The curve at the back of the waist, called "the hollow of the back" being very pronounced, the lecturer points to this as an evil wrought by the corset.

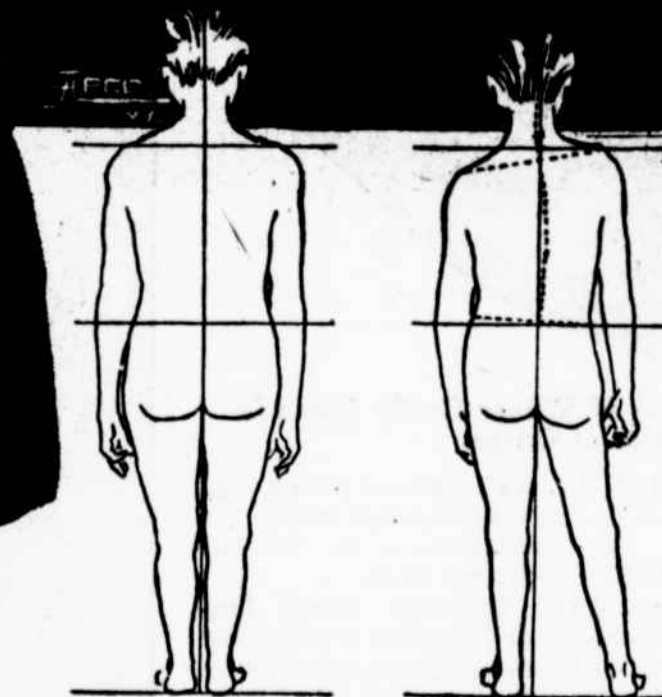
The truth is, say the scientists, that this pronounced curve, this "swaybackedness," so to speak, is an index of health. The spine being an indicator of the body, the marked curve shows the degree of the health of the woman and has nothing whatever to do with the wearing of stays.

Furthermore, the spine of the woman is more mobile. Its parts move more easily upon each other and are more resilient. They bound back into place, as it were, more easily than man's. This is the true reason why women have greater endurance and live longer than men. Her better spine prolongs her life ten or fifteen years.

Highly significant is the discovery that at birth the vertebral column is practically free from architectural imperfections. Indeed, at the beginning of life the column is theoretically normal. In external appearance every healthy infant's spine conforms, or nearly conforms, to an established type. However, as soon as the voluntary control appears in the spine the typical curves begin forming. In other words, the vertebral column, as a whole, is structurally and functionally inadequate to sustain the weight of the body. As the child begins to walk and the physiological curves develop, the inefficiency of the spine becomes apparent.

The human spine is weak, apparently, because of our determination, ages ago, to walk upright. Through untold centuries of

Apparatus Used for the Correction of Spinal Curvature. The Patient Hangs by a Neck Collar and Lifts Himself Up as Shown, the Stretching Aiding to Bring the Vertebrae Back Into Proper Alignment.



At Left, the Perfect Standing Position Made Possible by a Straight Backbone; at Right, the Sagging Shoulder and Distorted Hips Caused by Spinal Curvature.

evolution our ancestors walked on all fours. The quadrupedal position is our natural one. When we begin to raise ourselves from the crouching position of the apes, unusual strains were put upon the spine. Gravity acted differently upon the "strung vertebrae." Man walked too soon. Just as a child contracts bow legs if he begins to walk before his leg bones are strong enough, so man "sprung" his spine because he stood upright before it could bear him.

Hereditarily, it has been found by the measurements, apparently has nothing whatever to do with the shape of the spine. In not one case did the curvature of mother and child exactly correspond.

An examination of the figures taken so far shows no advantage to vegetarians from their diet, at least so far as the straightness of their backbones is concerned, although this has been put forward as a claim by non-meat eaters.

As a matter of fact, the Indians, who are one and all meat eaters, have a far better record for straightness than white vegetarians.

In cases of infantile paralysis," says Dr. Millard, "we have often found that lesions had existed in the spine, or a slight curvature caused by a fall or accident, previous

vention of Spinal Curvature in the near future and the idea will be introduced into the schools all over the country. "In order to have the best mentality or for a child to be bright in his work and well up in his studies he must be free from any strain or stress along the spine, as this part of the anatomy contains the spinal nerves which, if irritated in any manner by contracted muscles or curvatures, will reflect itself upon the child's mentality. Also it will weaken their eyes and sometimes interferes with their hearing."

"So we see that in developing a child from a spinal standpoint we bring about a better mental condition and it will be easier for the child to accomplish more in his school work. Fewer glasses will be worn and their sense of hearing will be more acute; there will be a less tendency toward development of catarrh, adenoids and tonsillitis, as their circulation will be more perfect, in every instance. If the spine is free from curvature.

"We have found in a number of cases of consumption of the lungs that there is a spinal curvature which has thrown the ribs on one side in a bulging manner, and on the other side constriction of the chest, throwing the lungs out of place.

Miss Virginia Pearson, Who Has One of the Most Perfect Backbones in America—Her Only Rival Being, It Is Reported, a Woman Seventy-two Years Old.

to the attack, and that the circulation to the spinal cord had been disturbed, making the disease settle more markedly in the portions under strain.

"The time may come when children will be allowed to stand up or take a minute's exercise every half hour in school. This would be a very wise position, and would enable the children to sit more erect during the half-hour periods. This could very easily be introduced in the schools, and may in the very near future. Keeping a child sitting erect for an hour and a half or two hours is a little more than the child can stand. Very few children can sit still that long and remain in perfect posture. This will be taken up by the National League for the Prevention of Spinal Curvature in the near future and the idea will be introduced into the schools all over the country.

"In other instances, we find that the liver is crowded out of place and that the spleen is pressed in and that the kidneys are thrown out of proper position by spinal curvature. All of the organs of the body may be altered in their shape and changed in their position by curvatures that exist in their framework. Ask any dressmaker: what percentage of their patrons have uneven hips. You will be surprised at the answer. This is not a normal condition. The hips are supposed to be perfectly even, also the shoulders, and the spine perfectly straight.

The shoulders show a corresponding unevenness when the hips are uneven, and if you measure the length of the legs you will find that one is a little shorter than the other when a curvature exists.

"There are a great many amusing phases to this contest. For instance, some people have the idea that a real stout woman is not eligible, or that a long-waisted woman or a short-waisted woman, but that makes no difference when we come to make a technical examination of the spine.

"Any shaped woman may have a perfect spine; that is, practically perfect, regardless of her size or weight. The spine is a peculiar column, in that it registers all kinds of accidents, and the majority of the accidents are permanently recorded unless they have been eliminated by corrective work.

"It is not a case of a perfect thirty-six or any other perfect number; it is a case of a perfect measurement in the spine regarding its contour and the physiological curves. These curves are shown in profile, and the plumb line dropped from just in front of the ear will demonstrate whether the line falls so that it touches the foot at a certain point which is supposed to be perfection. This profile also shows the curves in the back which are normal if the spine has its regular contour, that is, as described by the doctors in the measurement for this contest."

The spine is, indeed, almost exactly like the long stem of some flower like the lily or the tulip. It is hollow and made up of a number of sections called the vertebrae. Through the hollow runs the spinal cord up to the brain, and the spinal cord is just

as important to us as our brain itself is, since without it we would not be able to move.

Balanced on the top of the backbone is the head, while the base of the spinal column is supported by the bones of the pelvis. Now it will be seen that just as the natural tendency of a long flower stalk is to bend under the weight of its flower, so the tendency of the spinal column is to bend under the weight of the skull and what it contains. This bending of the spinal cord is natural for the flexibility demanded of it. But oftentimes it becomes "set" into a certain curve, which is a departure from its normal upright-ness.

This curve is called "scoliosis," or more commonly spinal curvature. Through this permanent bending the spinal cord, that mass of most important nerve matter, becomes constricted or bent out of the perpendicular. Certain stresses or strains are put upon it and beside that there are oftentimes irritations set up in it where the end of the vertebrae touch each other when these have been thrown out of alignment by the curvature of the column.

One of the most noticeable defects in our spinal columns found by the National League investigators was that the mid-spinal line—that line that is equally distant from both sides of the body—is a line as imaginary as that which marks the equator, so far as every one measured was concerned. Some tips of the spine always lie to the right or left of this line.

Some of the spinal tips project farther outward from the spine than others. These are faults, one or more of which appear in every spine. No human spine so far found has been without them.

Apparent gaps in the distance occur usually in the dorsal region; that is, that part of the spinal surface between the shoulder blades. This gap, indeed, often gives the appearance of a spinous tip missing.

Certain spinous tips lie too close together.

The juncture of the ribs with the spine is not always the same upon each side of the spine.

Upon pressure the sides of the same vertebrae do not project equally upon each side of the spine.